The following text provides a transcription of the Introduction to Federal Renewable Energy Goals and FEMP Services webinar. The text is taken verbatim from audio presented by Chandra Shah of the National Renewable Energy Laboratory (NREL). Lars Lisell of NREL served as session moderator.

Slide 1-Lars Lisell

Introduction to Renewable Energy Goals and FEMP Services. Chandra Shah will present. We both work at the National Renewable Energy Lab in Golden, Colorado. As a quick reminder, please log in using your full name and organization, or you will not receive follow-up emails and certificates.

Slide 2-Lars Lisell

Today's presentation will last approximately 60 minutes, and we hope to have about 10 to 15 minutes at the end to answer questions. Your phones are muted, so submit questions by typing them into the Q&A tab on the right side of your screen at any time during or after the presentation. Questions and answers from today's webinar and questions that we are not able to respond to during today's webinar will be collected and answered in text format. This Q&A will be sent out to all participants. We will also send out a course evaluation to all attendees. We appreciate any feedback you can provide so that we can improve future courses. All attendees that return a course evaluation will receive a certificate of completion by email.

Slide 3-Lars Lisell

We're going to discuss some motivations for renewable energy. Today's free webinar is presented by the Department of Energy's Federal Energy Management Program or FEMP. I want to thank Richard Kidd, the FEMP program manager, and Ann Crawley and Boyan Kovacic, also from FEMP, for sponsoring this series of webinars and for their considerable help with today's presentation. This presentation is the second in a short series on renewable energy. Our next webinar in the series will most likely occur in March and will be announced through the FEMP events calendar. The next course is also targeted for federal site energy managers. It is titled *Deciding Which Renewable Energy Project is Best for your Site*. To learn about these and other training opportunities and to tap into an unbiased wealth of information on energy efficiency and renewable energy, visit FEMP's web page at www.femp.energy.gov.

Slide 4-Lars Lisell

I'd now like to introduce today's speaker, Chandra Shah. Ms. Shah is a senior project leader with the National Renewable Energy Laboratory. She has supported the FEMP program for over ten years. As a laboratory lead for the FEMP Renewable Energy Purchasing Program, she has assisted numerous federal agencies with renewable power and REC purchases across the country. Current efforts are focused on assisting federal agencies with onsite renewable power purchase agreements.

Slide 5-Chandra Shah

Good morning, everybody. Today I will be starting with a quick overview of the FEMP organizational structure; then I will talk about the various federal renewable energy goals through legislation and executive orders and then cover FEMP's services for renewables and provide some information regarding contacts and other resources that can be helpful as you do a renewable project.

Slide 6-Chandra Shah

I've included an acronym list for some of the acronyms that are used throughout this presentation, and you can use that as a resources.

Slide 7-Chandra Shah

FEMP's mission is to facilitate the federal government's implementation of sound, cost effective energy management and investment practices to enhance the nation's energy security and environmental stewardship. FEMP helps with renewable projects as well as energy efficiency, water efficiency, etc.

Slide 8-Chandra Shah

FEMP is organized into three different groups: The Project Transaction Services Group, which helps with alternative finance mechanisms such as energy savings performance contracts, utility energy service contracts and power purchase agreements and also helps agencies take into consideration state and federal incentive programs and utilize those programs to help with the cost effectiveness of their project. The Applied Technology Services Group provides technology services for renewables and other federal goals, and then the Decision Support Services Group provides outreach and training and education, as well as some of the reporting and guidance for energy legislation and executive orders and various regulations.

This is the organizational chart. Richard Kidd is the program manager for FEMP, and Skye Schell is the lead for Project Transaction Services. Brad Gustafson leads Applied Technology Services, and Scott Richlen is the lead for Decision Support Services. You will be accessing most likely all of these groups as you to through and implement a project.

Slide 9-Chandra Shah

Now we'll get into the renewable requirements.

Slide 10-Chandra Shah

The first is the Energy Policy Act of 2005, which set renewable energy goals of 3 percent by 2007, 5 percent by 2010, and then 7.5 percent for FY 2013 and beyond. This is for percentage of electronic energy; only electric renewables count towards the Energy Policy Act goals. Keep in mind that your agency may have additional renewable requirements; for example, DOD has a renewable goal and BLM has a renewable goal as well, and your agency may also have established some goals.

Keep in mind that to meet this goal, it must be a separate purchase. The renewables that are already in your utility system mix or that are used to meet a state renewable portfolio standard requirement do not count towards the goal. You must actually make a separate purchase, a separate contract. What's normally included for all the utilities customers does not count towards the renewable goal.

Slide 11-Chandra Shah

The definition for renewable energy is in the Energy Policy Act of 2005, Section 203, and there's also a detailed biomass definition. One additional technology that was added in the renewable guidance is

hydrokinetic, which is run of the river, so that's not actually in the Energy Policy Act, but it does count towards the renewable goal. There is a provision to encourage onsite projects that gives double credit towards the goal if the renewable energy is produced on federal or Native-American land and used by a federal agency, and we'll cover what we mean by "used" in some later slides. Biomass generation counts even if the fuel supply comes from other locations, so as long as the generation equipment is actually on federal or Native-American land, then that will count.

This is for electric projects only; the bonus provision only applies to electric projects, not thermal, and it only applies for new projects that are placed in service after January 1, 1999.

Slide 12-Chandra Shah

What we mean by "used" is that the renewable energy certificates must be retained in order for a project to count towards the renewable goal and for the site to get that onsite bonus. There is a provision to allow the REC's to be sold, and then replacement REC's can be purchased to get credit towards the goal. And this is the REC Swap Option, and it is described in the Renewable Guide in Section 3.2.2. And this is a good option if you — for solar projects, especially — because there are some states where solar REC's are very valuable (they might be 20¢ per kilowatt hour or higher) and then you can buy national REC's on the market that are much cheaper, more in the range of 0.1¢ per kilowatt hour. And that's where you would want to consider this REC swap, where you can sell your project REC's for a high amount and then buy cheaper REC's. If you have a wind project or biomass, it's less likely that this REC swap option would be valuable for you.

There is a grandfather clause in the guidance for those projects that were completed before the guidance was actually issued, and this grandfather clause is in place until September 30, 2011.

I've mentioned the renewable guidance; this covers the Energy Policy Act as well as Executive Order 13423, which I'll cover in a few minutes, and it's available on the FEMP website. Section 4 of this guidance gets into when renewable energy can be used to meet the energy efficiency goals and the plan phase-out for the ability of renewable purchases to be used towards that energy efficiency goal, and that phase-out ends in Fiscal Year 2012.

Slide 13-Chandra Shah

So now we'll get into some slides that provide more information about what we mean by retaining the REC's and using the renewables. So Case No. 1, you have a renewable project at a federal site that produces 10 gigawatts of electricity, and it also has REC's associated with that project, and the REC's are retained in this case, and so the site will get credit for the project as well as the bonus. So they 20 gigawatt hours of credit towards the renewable goal in this case.

Slide 14-Chandra Shah

In Case No. 2, you have the same renewable project, but in this case the site decides they want to sell the REC's, and then they make the choice not to buy any replacement REC's. So in this case, because they've sold the REC's and have not purchased replacement REC's, it does not count towards the renewable goal. And a site may decide they don't want to buy replacement REC's; for example, if they've already met the renewable goal or if their agency has already met the renewable goal, they may decide that they'd rather just sell the REC's.

Slide 15-Chandra Shah

In Case 3, we have again the same renewable project. The REC's are sold at a high price, and then the agency they want credit towards the renewable goals so they buy REC's on the national market at a lower price, and again they get credit towards the goal and the bonus, and they get 20 gigawatt hours towards the renewable goal.

Slide 16-Chandra Shah

Now we'll get into Executive Order 13423, which was issued back in 2007. The primary provision in this executive order is a requirement that at least half of the renewables must come from new renewable resources. And "new" is defined as "put into place after January 1, 1999." Refurbished projects that have over 80 percent of the original costs involved in that refurbishment also count as new. The executive order also encourages onsite projects, and one key provision within Executive Order 13423 is that non-electric energy also counts towards this new requirement. So you can implement thermal, mechanical, as well as day lighting and thermal. There's a number of thermal technologies that federal agencies have implemented at their sites, such as solar water heating, solar ventilation preheat, ground source heat pumps, biomass, ocean or geothermal. And then mechanical options include pumps that are driven directly by wind or qualifying hydro.

Another provision to keep in mind is that Executive Order 13423 revokes the prior Executive Order 13123 requirement that all renewables must be installed after January 1, 1990. So what this means is that while you have to have half of your renewables coming from new resources after January 1, 1999, the old resources can be from any period in time; it doesn't have to be just after January 1, 1999.

Slide 17-Chandra Shah

This slide describes when projects count towards the EO goal and when they count towards the EPAct goal and describes a little bit more about how an electric project will count and how a non-electric project will count. For example, both electric and non-electric count towards the EO 13423 new goal, electric capacity counts towards both EO and EPAct goals, but non-electric capacity does not count towards the EPAct 2005 goal.

The chart shows a couple of options. One option is that the EPAct goal is met by 5 percent electric projects. Half of the above electric projects are new, so both the EPAct and the EO goals are met, and the site is using 5 percent renewables. Another option is that the site has 5 percent, which meets the 5 percent EPAct requirement with electric, but none of the electric projects are new, and in this case they've met the EPAct requirement but they still need to figure out a way to meet the executive order requirement. So if they implement new thermal, mechanical or day lighting, they can meet the 2.5 percent and meet both of the goals and end up with a total of 7.5 percent of renewables at their site with a combination of electric and thermal.

Slide 18-Chandra Shah

Another piece of legislation that's important for renewables is the Energy Independence and Security Act of 2007 (that's EISA 2007). It includes one section, Section 523, that requires that 30 percent of the hot water demand in new or renovated buildings be met with solar hot water equipment as long as it's

lifecycle cost effective. And "lifecycle cost effective" is defined as and SIR (Savings Investment Ratio) greater than one. The 10 CFR 426 has more details about the methodology to use for lifecycle cost effectiveness calculations, and you can use the Building Lifecycle Cost Calculator (BLCC) program that's available on the FEMP website. This BLCC program includes the fuel escalation rates, discount rates and inflation rates to use that are specified by NIST.

EISA Section 441 another provision that's important to consider. It allows an analysis period of up to 40 years instead of the 25 years which was the prior analysis period, and so this can be helpful especially for new buildings if you have — maybe some day lighting or some other technologies — if you use an analysis period of 40 years instead of 25, then it may show that the project is more cost effective. It's up to you at your site to determine what analysis period is appropriate depending on the technology and how long you expect that technology to last.

Another important EISA provision is Section 433, which designates a fossil fuel use energy reduction goal of up to 100 percent by 2030, and this is compared to a similar building in 2003 so that's the baseline that you use for this goal.

Slide 19-Chandra Shah

There's a new executive order that was just issued about a month ago, Executive Order 13514; hopefully you've at least heard of this executive order. There is information on the FEMP website. One portion of the FEMP website has more details about the greenhouse gas emissions. The Fed Center website has additional information as well. Keep in mind that this executive order does not revoke EO 13423 — it's in addition to. One of the primary provisions is to have agencies establish greenhouse gas goals. And there are different types of greenhouse gas goals, and I'll get into the definitions for Scope One, Two and Three in a slide that's upcoming.

A provision that's included regarding renewables is that an agency should consider reductions for greenhouse gas goals that are associated with renewable projects and that they also should look at planning policies if your agency does have policies that will help local implementation of renewable energy. So that provision probably doesn't apply to too many agencies, but there are probably some where this is —

Slide 20-Chandra Shah

Another provision to consider when you're thinking about renewables is the high-performance sustainable building, Section 2G. This states that all new federal buildings that are entering the planning process in 2020 and beyond must be designed to achieve zero net energy by 2030. And so most buildings, in order to meet zero net energy they're going to have to do a lot of energy efficiency, and they're also going to need to implement some renewables. So, renewables will be important in meeting this goal.

There's also some provisions to meet the Guiding Principles for Federal Leadership in High-Performance and Sustainable Buildings, and here again renewables can be important.

Slide 21-Chandra Shah

Here are the definitions for the different types of emissions. Scope One is for technologies that are actually at a federal site, so boilers, furnaces, emergency diesel generators, vehicles, and then if you have chemical or other process equipment, those are the Scope One emissions.

Scope Two is emissions that come from the use of electric or heat or steam that's purchased by a federal agency but it's actually generated somewhere else. It might be your utility is providing you electricity that comes from a coal plant or natural gas plant or other plant that's located somewhere away from the federal agency. The greenhouse gas emissions associated with these purchases are going to vary significantly by location and resource. If there's solar and wind as part of the mix, then those have zero emissions, and if there's biomass as part of that mix an emissions study is required to determine what the actual greenhouse gas emissions are. In these cases, for solar and wind and biomass, it's most likely going to be an onsite project that's offsetting of federal purchase of electricity from the utility.

Scope Three is emissions that are involved with — not with the actual agency activities but activities that are related to the agency (vendors, delivery services, employee travel and employee commuting). And the employee category's probably going to be one of the most important categories for Scope Three.

Slide 22-Chandra Shah

This is a picture that depicts the different types of emissions, and up on the top of this slide it shows the different types of greenhouse gas emissions. Carbon dioxide is the most common, but there are other emissions that may be applicable for your site. You need to consider more than just the carbon dioxide emissions. There may be some other emissions that are important to look at.

Slide 23-Chandra Shah

This slide is a map of the United States that shows the emissions for various regions of the country, and it shows that these emissions vary significantly depending on where you are. The e-grid website is an EPA website, and it has the emission factors there. The ones that are shown here are non-base load. So these are the emissions that result from a generation that comes online during peak hours, and it might be more likely to be offsetting some new wind or other renewables.

As you can see, California has the lowest pounds per megawatt hour of greenhouse gas emissions at 1086, and Nebraska has the highest at 2180. You can see, there is a huge difference in emission factors depending on where you're located. This'll be an important consideration as you track your greenhouse gas emissions and determine how you can meet the greenhouse gas emission goals that are set for your agency.

Slide 24-Chandra Shah

This is a summary of the renewable goals. There's the EPAct 2005 goal for 5 percent and up to 7.5 percent by FY 2013 (it applies to all agencies). Executive Order 13423 requires half come from new resources, and this also applies to all agencies. As I mentioned at the beginning of the presentation, DOD has a renewable goal of 25 percent by 2025, and this goal is produce *or* use, so there is not this retention requirement for the DOD goal. And then the Bureau of Land Management has a production goal to produce renewables on their land, and they have numerous land holdings, especially in the West. EISA has the solar hot water heating requirement, and that applies to all agencies.

Slide 25-Chandra Shah

In terms of meeting the goals, you can do an onside project (this is emphasized in the new executive order, encouraging onsite projects), and just remember that you need to retain the REC's in order to meet the Energy Policy Act 2005 renewable goal. You must buy replacement REC's to get credit towards that goal if you sell the REC's from the project. And you can either use appropriations for an onsite project or you can also do alternative financing.

Another option to meet the goal is to purchase REC's or to buy renewable power in a competitive electricity market if your site happens to be in a competitive electricity market, or through the local utility. Whatever renewables you buy must meet the renewable guidance renewable definition, it must include all the greenhouse gas emissions and other attributes. That's especially important — the greenhouse gas emissions are especially important when it comes to the new executive order. And the REC's — you could buy REC's from non-electric renewables and get credit towards the EO 13423 new requirement. I'm not aware of any agencies that are buying REC's from say solar hot water, but I have heard that those options exist, so it's something to consider. And there are also some requirements in terms of vintage, when the REC's are generated compared to what year you're crediting them to and third-party verification and audit requirements, and those requirements are specified in the guidance, Section 3.34 and 3.35.

Slide 26-Chandra Shah

This slide shows where the various agencies are. As you can see, the EPA is leading the federal agencies that are way above 100 percent, and this chart shows 2007 and 2008 (the data for 2009 is being collected right now, so that data is not available yet). And it shows where the agencies are relative to the various goals.

Slide 27-Chandra Shah

Before we get into FEMP renewable services, are there any questions? No questions yet?

Slide 28-Chandra Shah

Well, we'll go ahead and get into the FEMP renewable services.

Slide 29-Chandra Shah

FEMP has a number of services that are available for renewables. There's a lot of information on the website, there are some resource maps, there's a variety of types of project assistant, whether it's renewable screenings, assistance through the call for projects that's issued usually at least once a year, and then there's support with implementing projects through alternative financing. We also provide help with purchasing renewable power as well as training and outreach.

Slide 30-Chandra Shah

This slide shows the front page of the FEMP website, and you can see the green circle around Deploy Renewable Energy Technologies; that's one way to access the renewable website. Up towards the top on

the front bar there is another circle around Technologies, so you could also click on Technologies to get to Renewables. Those are two main options from the FEMP website to get to the Renewable page.

Slide 31-Chandra Shah

This is the actual Renewable page, and the Renewable page covers federal requirements, some of the things I've already discussed, renewable resources and technologies, project planning, resource maps and screening tools, information about purchasing renewable power. There's a number of case studies. There's a Renewable Energy Working Group as well, and the next meeting for the Renewable Energy Working Group is tentatively scheduled for December 10 (they're typically 2-3 hours) in DC, and then there's a telecon line for folks that want to just call in, and then there's contact information as well. And this website is being updated; there's a fair amount of work that's being done, so stay tuned and check the website every once in a while to look for new information.

Slide 32-Chandra Shah

This is one of the maps that's available on the website. This is a map for solar hot water heating, and it shows what electric rate you would need to have, how high it needs to be in order to get a savings-to-investment ratio of one and have a cost-effective project. As you can see here in the Southwest, the projects are cost effective if you have an electric rate of 4 to 6¢ per kilowatt hour. When you get into the northern part of the country, the East and West, Northeast and Northwest, then you need closer to 8 to 10¢ per kilowatt hour, and up in Alaska, most of Alaska needs 10 to 20¢ per kilowatt hour. You can look at what your electric rates are and what part of the country you're in and get a sense for whether solar hot water would be cost effective. Other similar maps are available on the FEMP website; this is just an example of what you can access on the FEMP website.

Slide 33-Chandra Shah

Keep in mind that FEMP's services are provided for free using limited FEMP funding. If there is not sufficient FEMP funding for the project that you're looking at or if you want really in-depth assistance beyond what is typically provided through FEMP, then using your own funding you can work on a work-for-others agreement or coordinate a work-for-others agreement with NREL or another one of the laboratories to get the assistance that you need. And there's many agencies that have used this work-for-others process to access in-depth assistance from the various laboratories that support the FEMP program.

Slide 34-Chandra Shah

Renewable screening is something that's really important for determining what type of project will work for your site, and this is relatively new over the last couple of years that FEMP now conducts renewable screening for every new ESPC project, and we use a number of various tools — the Renewable Energy Optimization tool, Solar Advisor Model and other tools depending on what types of renewables you're looking at. There's information about the ESPC screening process on the website that's shown here, and one of the reasons why renewable screening is included for ESPC projects is because the new DOE/ESPC contact does emphasize renewable energy as well as advanced efficiency technologies, so FEMP wants to assist the agencies to identify technologies and deploy those technologies that make sense for their site. To get that screening done, you should coordinate with your federal financing specialist, and the data that you need to provide, there's a Word document that's available on that same

FEMP website, and you can download that document and then fill that out, get it to your federal financing specialist; they'll coordinate with the National Laboratories to get the screening done. Once the screening's done, you can use the results to ensure that the renewable projects that look good for your site are evaluated by the energy service companies. Ideally the screening is done at the very beginning of the process before you go to the various energy service companies and do the competition between those ESCOs to determine which ESCO you're going to use and make sure that the renewable projects that you'd want to be evaluated are actually evaluated at the beginning of the process.

There is a similar screening that can be done for utility energy service contracts. It's a less streamlined process, but if you're looking at a UESC, you can also contact FEMP to get that screening done. There's also screening that's available using technical assistance funding and through the call for projects.

Slide 35-Chandra Shah

The call for projects is an opportunity for federal agencies to request assistance through FEMP and through the National Laboratories and the FEMP contractors. Keep in mind that this is only technical assistance; it does not include funds to actually purchase the equipment. The call for projects is issued on a periodic basis, and the call for projects for this Fiscal Year 2010 will be issued later this year (there's not a schedule available yet), and renewable screening will be a priority for the call for projects. The main contact at FEMP headquarters is Shawn Herrera and her information is shown here, and then Mindy Latimer at the DOE Golden Field Office in Golden, Colorado is another contact for the call for projects.

Slide 36-Chandra Shah

The type of services you can request when it comes to renewables, you can of course ask for a renewable screening using REO or some other tool. We also do detailed feasibility studies, and a feasibility study involves a site visit where we go and we may — if it's solar hot water or PV, we'll go onto your roofs and look at the roofs and see what space is actually available, do a more detailed economic analysis, look at the engineering that would be required to do the project, look at your distribution system and make sure that a new renewable project will work at your site or if it requires additional upgrades in your utility and electric infrastructure, then we can identify those requirements. The study will also discuss the various financing options that might be available. Look at the site that you have, who your utility is, whether they have a utility energy service contract program, whether that's an option, whether a power purchase agreement might be a good idea, what incentives are available, etc.

We can also help with procurement specifications for the project, whether you're doing a project using appropriations or whether you're doing a power purchase agreement, whether it's going to be an RFP or any another kind of project. And we can help with the contracting language; we also help with evaluating proposals and then we can help with acceptance of new renewable projects, making sure that they're operating properly, and long-term monitoring to see how the renewable project is actually performing once it's installed and operating; that's something else that can be done and requested through the call for projects.

Keep in mind that the support that National Laboratories provides is geared towards those activities which do not compete with the private sector.

Slide 37-Chandra Shah

FEMP also provides a significant amount of support for projects that are implemented using the various types of alternative financing options; the Energy Savings Performance Contract has a very well-established process. Support's provided through their project facilitators, the federal financing specialists and then the National Laboratory core team. The FFS contacts are listed at the FEMP website, and that's a good place to start. There's one per region; that's four for the country.

The Utility Energy Service Contact process is a less established process; it varies depending on who your utility partner is, so there is a fair amount of assistance for UESC's; just keep in mind that it's a less set process, not quite as established as the ESPC process because it's not one contract that's used all over the country. The contracts are going to vary depending on your utility partner. You might use an area-wide contract, you might use a basic ordering agreement, or you may develop your own type of agreement depending on what agreements are already used with your utility.

With power purchase agreements, this is the area that I focus on, FEMP provides assistance to agencies. The Defense Energy Support Center has a renewable team that they established starting a year or so ago, and they are working on some pilot PPA programs right now and are available to help agencies with the power purchase agreement. For those agencies that are in Western Area Power Administration Service territory or Bonneville Power Administration Service territory, you can use Western to sign a longer-term contract. One of the key issues with PPA's is that the FAR Part 41 Utility Service Authority is only for 10 years, but Western can do a longer-term contract, 20 years or possibly longer. So if you're in Western's service territory, this may be a good option for you to do a longer-term contract. For example, NREL partnered with Western to do a solar PPA for Fort Carson down in Colorado Springs. We also partnered with Western to do 20-year contracts.

We can help with determining, looking into the market and doing some research to determine what incentives are available. Is there a good solar REC market? That's pretty important for solar projects to be cost effective. What are the potential impacts to your existing tariff or your existing competitive electric supply contract? Are there standby charges? What are some of the interconnection and net metering policies and requirements that are important to consider? We can help with the land use agreement that provides access to the land; usually a lease or an easement or a license.

NEPA is a key consideration; you'll probably need to do at least an environmental assessment, possibly an environmental impact statement, although there usually is a categorical exclusion for rooftop systems.

We also help with the solicitation and bid evaluation, and DESC (Defense Energy Support Center) is one of the key partners as I mentioned for that RFP.

Slide 38-Chandra Shah

You can also purchase renewable power, as I mentioned. You can buy RECs, and the Defense Energy Support Center issues REC RFPs periodically throughout the year typically just based on agency requests. GSA (the General Services Administration) also issues REC RFPs on a less regular basis, and Western Area Power Administration has an annual REC purchase through their federal renewable program that was designed five years or so ago to help federal agencies with renewables. And as I mentioned, Western has now moved into the PPA service provision.

We can also help you identify whether renewable power is available; if you're in a competitive electricity market, this option isn't utilized very frequently, but it might be an option for you if you are in an active competitive electricity market. You also may be able to buy renewables through your local utility through a utility green pricing program, and so what FEMP can do is help you evaluate your options (RECs are the most common option here), and then we can either help you with a contract if you're buying renewables from your utility, that's a sole source; you just have to go ahead and sign whatever contract is required. If you're buying RECs or renewable power in a competitive market, then that's going to be through an RFP.

The Green Power Network is a very helpful resource when it comes to purchasing renewable power. They have a lot of information about REC's, renewable power providers and a very comprehensive list of utility green pricing programs.

Slide 39-Chandra Shah

FEMP has a lot of training and outreach, workshops and webinars, webinars such as this one and then in-person workshops as well. If you go to the front page of the FEMP website, on the right side there's an event area you can click. It shows upcoming events and you can click on the More Events button and go to the event website, and it shows what is going on in upcoming webinars. For example, November 10, there is an ESPC contracting and negotiations webinar; November 13 there's an introduction to UESC webinar; there's another introduction to UESC webinar December 11. And December 9 there is an alternative financing options webinar; this AFO webinar is offered every two months or so, and it covers ESPC, UESC and PPAs, so that's a nice webinar if you want to get a good overview of the various alternative financing options (I cover PPAs in that webinar).

There are also some networking opportunities. I mentioned the Renewable Energy Working Group; they meet approximately quarterly, and as I mentioned, the next meeting is tentatively scheduled for December 10. The Federal Utility Partnership Working Group has been meeting for over ten years (FUPWG is the acronym), and this is a great opportunity to learn more about UESCs. Every agenda is different; they cover a variety of technologies. The upcoming meeting is in a couple of weeks in Ontario, California, just near LA, and you can get information about this FUPWG meeting on the FEMP website. And at this meeting (it's hosted by Southern California Edison), they're going to — in terms of renewables, there's a solar project that will be discussed, there's a number of wind panels; if you're interested in wind, I definitely would encourage you to consider going to the FUPWG meeting. And then we're also going to be discussing — we're looking at some various PPA type agreements including a PPA with a utility, and there's the Energy Lawyers and Contracting Officers Working Group that is working on these template documents, and there will be a Working Group meeting at the FUPWG conference and some additional meetings after the FUPWG meeting is officially over.

Another really important training opportunity is the annual GovEnergy Conference. GovEnergy 2010 is August 15 to 18 in Dallas, Texas, so definitely mark your calendar. This is a great way to learn more about energy options and network with your colleagues to learn what is going on in the rest of the federal sector.

The events and training calendar is available, as I mentioned, on the FEMP website.

Slide 40-Chandra Shah

Here is a summary of some of the important FEMP web pages. The FEMP home page, of course you should have that bookmarked. The Renewable home page has a wealth of information about renewables. There's a renewable contact page, there are FEMP contacts including the customer service representative that serves your agency; every major agency has a FEMP customer service representative at FEMP headquarters. The events and training calendar that I mentioned.

The Database of State Incentives for Renewables and Efficiency is a great website. The front page is a map of the United States, and you can click on your state to find out what types of incentives for renewables as well as efficiency exist in that state. And it also has federal incentive information, and there is a variety of maps and tables that you can access through this website, so this is a key website for any kind of energy projects that you're considering.

I mentioned the Green Power Network; again, that's a very helpful resource, and they have a RFP website, so whenever there's a PPA RFP or REC RFP, that gets posted on the Green Power Network.

So now we're ready for questions.

Slide 41-Lars Lisell

We have two questions that have come in so far. The first one is, "Where does FEMP obtain energy that it purchases, the private sector or other federal agencies?"

Slide 42-Chandra Shah

Where does FEMP get their energy? Well, we don't actually buy energy, but we help federal agencies buy energy, and it depends on the state where a federal site requires help; then we help them decide what the options are for that site.

Slide 43-Lars Lisell

A second question is, "Can agencies enter into BOOT, which stands for Build, Own, Operate, Transfer agreements, wherein a provided party builds and owns the RE project and gets tax benefits and then later flips the ownership to the agency?"

Slide 44-Chandra Shah

I have heard of this BOOT option. They are a form of power purchase agreements, but I didn't get into details about what a power purchase agreement is. It is a agreement where a private developer owns a renewable system, they purchase the equipment, they install it, they operate and maintain it and own it through the life of the contract, and then they sell the electricity to the federal agency. So it's a privately owned system that's at a federal site with the federal site just purchasing the electricity. Now, you mentioned having the ownership moved back to the federal agency, and the one thing to consider is that having the private ownership does provide the opportunity for a renewable developer to take advantage of tax incentives. There is the investment tax credit and the accelerated depreciation at the federal level; there may be other state and local incentives that could be useful, and the benefit here is that the renewable developer can take advantage of those tax incentives while a federal agency cannot. But if there is going to be some kind of purchase by a federal agency somewhere down the line, you need to ensure that the purchase is set up so it doesn't require the renewable developer to pay those incentives

back to the IRS. The accelerated depreciation is taken over a period of years, so you need to wait until about year six or seven before you could do any kind of purchase. The other thing to consider is that the purchase should be at fair market value in order to make sure that the renewable developer will still be eligible for those tax credits.

Slide 45-Lars Lisell

A third question is, "If you don't know what finance mechanism you'll use, will FEMP provide a no-cost renewable energy screening?"

Slide 46-Chandra Shah

Yes, we will. FEMP realizes that in some cases a site just knows they want to do renewables and they may not know what screening option — or what financing option — they want to use to implement the project. In that case there's a number of different buckets of money that can be used, and so yes, we can.

Slide 47-Lars Lisell

That's all the questions that people have had so far. Thank you to everyone who participated today, and thank you again to Richard Kidd, Ann Crawley, Boyan Kovacic and the Federal Energy Management Program for supporting this series of webinars.

Please check FEMP's website for other training opportunities. Our next course in this series is entitled *Deciding Which Renewable Energy Project is Best for Your Site*. It is scheduled for March. This webinar is now ended; thank you again.

Slide 48-Chandra Shah

Thank you.

[End of Audio]